What is claimed is:

1. A brushless motor for a bicycle comprising:

a plurality of ferromagnetic steel elements, annularly disposed on the wheel; and

a plurality of electromagnets connected to the body, each electromagnet provides an opening through which the wheel travels, wherein when the wheel rotates, at least one steel element is magnetically charged, and the electromagnets attract at least one steel element to pass through the gap, maintaining wheel rotation.

2. The brushless motor as claimed in claim 1, wherein the wheel has a rim, the steel elements are *secured on the rim*.

3. The brushless motor as claimed in claim 1, further comprising:

a battery electrically connected to the electromagnets and disposed on the main body.

4. The brushless motor as claimed in claim 3, wherein the steel elements are disposed on the rim with the same first angular intervals, the electromagnets are disposed on the main body with the same second angular intervals, and the first angular intervals are not equal to the second angular intervals.

5. The brushless motor as claimed in claim 4, wherein the ratio of the first angular intervals and the second angular intervals is 3:2.

6. A motor-driven bicycle, comprising:

a main body;

a main body with at least one wheel thereon;

a plurality of ferromagnetic steel elements, annularly disposed on the wheel; and

a plurality of electromagnets connected to the body, each of the electromagnets provides an opening through which the wheel travels, wherein when the wheel rotates, the steel elements pass through the opening.

7. The motor-driven bicycle as claimed in claim 6, wherein the wheel has a rim, the steel elements are secured on the rim.

8. The motor-driven bicycle as claimed in claim 6, further comprising:

a battery electrically connected to the electromagnets and disposed on the main body.

9. The motor-driven bicycle as claimed in claim 9, wherein when the wheel is rotates, at least one steel element is magnetically charged, and the electromagnets attract at least one steel element to pass through the opening, maintaining wheel rotation.

10. The motor-driven bicycle as claimed in claim 9, wherein the steel elements are disposed on the rim with the same first angular intervals, the electromagnets are disposed on the main body with the same second angular

intervals, and the first angular intervals are not equal to the second angular intervals.

11. The motor-driven bicycle as claimed in claim 10, wherein the ratio of the first angular intervals and the second angular intervals is 3:2.